

**Notice of Allowability**

Application No.

10/686,022

Applicant(s)

HYDUKE ET AL.

Examiner

Art Unit

Leigh Marie Garbowski

2825

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to claims filed 10/14/2003.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

#### **CLAIM 1**

"," [line 3] was changed to --:--; and

"," [line 10] was changed to --:--.

#### **CLAIM 2**

"," [line 2] was changed to --:--.

#### **CLAIM 3**

"output" [line 6] was changed to --outputs--.

#### **CLAIM 4**

"find" [line 2] was changed to --subroutine for finding--.

#### **CLAIM 6**

"," [line 2] was changed to --:--;

--said-- was inserted after "from" [line 24];

"find" [line 27, first occurrence] was changed to --finding--;

"find" [line 27, second occurrence] was changed to --said finding--;

"circuit" [line 28] was changed to --circuits--; and

"may be" [line 31] was changed to --is--.

**CLAIM 7**

"," [line 2] was deleted;  
"," [lines 3 and 7] was changed to --:--;  
--said-- was inserted before "selected" [line 11]; and  
"," [line 14] was changed to --:--

**CLAIM 8**

"," [line 2] was deleted;  
--accelerator-- was inserted after "hardware" [line 3];  
"," [lines 3 and 5] was changed to --:--;  
"a" [line 7] was changed to --said--;  
--said-- was inserted after "to" [line 14]; and  
--a-- was inserted after "of" [line 15].

**CLAIM 9**

"," [line 2] was deleted;  
"," [line 5] was changed to --:--; and  
--said-- was inserted after "within" [line 12].

***Allowable Subject Matter***

Claims 1-9 are allowed.

The following is an examiner's statement of reasons for allowance: although the prior art of record depicts computer systems for accelerating verification to comprise a simulator and a hardware accelerator, the prior art of record does not disclose or

suggest a system comprising the particular subroutines recited in each of the independent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cadambi et al. [U.S. Patent Application Publication #2003/0105617 A1] disclose a hardware acceleration system employing FPGAs. Lin et al. [U.S. Patent #6,389,379 B1] disclose coverification that eliminates race conditions. Burgun et al. [U.S. Patent #6,301,553 B1] disclose removing timing hazards. Selvidge et al. [U.S. Patent #6,009,531] disclose transformation for converting a circuit design into a single clock synchronous circuit. Tseng et al. [U.S. Patent #6,009,256] disclose a simulation/emulation system comprising a hardware accelerator. Wang et al. [U.S. Patent #5,579,510] disclose synchronous primitive elements. Chen et al. [U.S. Patent #5,475,830] disclose reconfigurable emulation that prevents hold time violations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Marie Garbowski whose telephone number is 571-272-1893 and e-mail is Leigh.Garbowski@uspto.gov.

Art Unit: 2825

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**LEIGH M. GARBOWSKI**  
**PRIMARY EXAMINER**